

APPENDIX E

NPL document, "ALANTEC: ALANTEC DELIVERS ANOTHER INDUSTRY FIRST; IP MULTICAST ROUTING SUPPORT FOR DESKTOP VIDEO CONFERENCING AND BROADCAST VIDEO," Business Wire, August 16, 1993

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**ALANTEC: ALANTEC delivers another industry first; IP Multicast Routing
Support for Desktop Video Conferencing and Broadcast Video**

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SAN JOSE, Calif.--(BUSINESS WIRE)--ALANTEC, the leading manufacturer of intelligent switching hubs, delivers another industry first with the introduction of IP multicast routing.

This standard PowerHub feature is a key building block to enable existing networks to support multiple-participant multimedia applications such as desktop video conferencing, delivery of television and video to desktops, video mail, networked all-hands meetings, and interactive desktop video training sessions.

The addition of IP multicast routing complements the feature-rich PowerHub family of products. PowerHubs provide private Ethernet and switched Fiber Data Distributed Interface (FDDI) to LANs and workgroups that need bandwidth for high-performance desktops and client/server computing as well as network-intensive applications like financial modeling, CAD/CAM, imaging, simulation, software development, and multimedia.

"IP multicast routing is another unique feature that PowerHub customers can use to build high-performance, low-cost networks today," said Yancy Lind, director of marketing for ALANTEC. "This latest enhancement demonstrates the flexibility and bandwidth capabilities of the PowerHub and adds to ALANTEC's list of firsts in the switching hub market, such as Virtual LAN, Port Monitoring, integrated multi-protocol routing, and semi-private Ethernet."

To date, existing computer networks have been unable to support multimedia applications like desktop video conferencing in which more than two users wish to simultaneously communicate, because these networks allowed for only one-to-one communication (unicast addressing), or one-to-all communication (broadcast addressing) between network nodes.

With the introduction of IP multicast routing, one-to-many communications can take place without broadcasting the packet to every network device and degrading the performance of the entire network. IP multicast routing allows one user to send traffic to the PowerHub, which in turn forwards that traffic to a selected group of users who can simultaneously participate in video conferences, and other interactive desktop applications.

To demonstrate this powerful new technology, ALANTEC will be showing multi-vendor interoperable desktop video conferencing between multiple desktops at Interop Fall '93 in San Francisco, Aug. 25 - 27, booth No. 5952.

IP multicast routing is based on established RFC standards (Request For Comment, the TCP/IP community's standard designation) and independent research by an Internet working group. To date, that research has yielded public-domain desktop video conferencing software packages for UNIX workstations as well as a set of routing protocols collectively called IP multicast routing.

Commercial desktop video conferencing products for Sun workstations such as Bolt Beranek and Newman's (BBN) PictureWindow package can also take advantage of multicast addressing. Existing PC-based desktop video conferencing packages such as InVision will soon be enhanced with multicast support.

"InVision is the only PC-based desktop video conferencing package designed from the ground up to run over existing networks," said James Geddes, president of InVision Systems Corp., a networking software company that manufactures InVision desktop video conferencing software for Microsoft Windows. "IP multicast routing support will be a useful feature addition as it will allow our customers to have more than two participants in a single video conference."

"We worked closely with ALANTEC to define its implementation of IP multicast routing, which we are now testing, and it is working well," said Jack Horner, manager of network design and planning for Silicon Graphics Inc. "We are considering using the PowerHub across our corporate network to run multimedia applications that require multicast, such as desktop video conferencing, networked training programs and broadcast all hands meetings."

"Over the past year the National Center for Atmospheric Research (NCAR) has been an active participant in the Internet MBONE," said Paul Hyder, network engineer at NCAR in Boulder, Colo. (The MBONE is the Internet Engineering Task Force multicast backbone, used for distributing audio, video, and data.) "During that time we have also installed a number of ALANTEC PowerHubs on our network because of its ability to provide bandwidth to desktops. Now, with the addition of IP multicast routing, we benefit from the bandwidth of the PowerHub, plus we have been able to expand real-time NCAR-wide meetings, discussion groups, and training classes -- all utilizing existing hardware."

IP multicast routing for the PowerHub is currently in beta test. It will be generally available in October of 1993 and will be included free of charge in all PowerHub System Software Release versions 2.4 and later.

ALANTEC delivers high-performance networking to workgroups and local area networks which require more bandwidth than is available through conventional shared Ethernet and FDDI-based hub technology. The PowerHub family of intelligent switching hubs sets the industry standard for broad functionality, high performance, and low price. ALANTEC is based in San Jose, Calif.

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